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**IS : 7535 - 1975**

(Reaffirmed 2005)

# *Indian Standard*

# SPECIFICATION FOR LIVER EXTRACT, MICROBIOLOGICAL GRADE

UDC 664·932·22 : 637·514·28 : 663·1

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# *Indian Standard*

# SPECIFICATION FOR LIVER EXTRACT, MICROBIOLOGICAL GRADE

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# *Indian Standard*
# SPECIFICATION FOR
# LIVER EXTRACT, MICROBIOLOGICAL GRADE

## 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 16 January 1975, after the draft finalized by the Food Hygiene, Sampling and Analysis Sectional Committee had been approved by the Agricultural and Food Products Division Council.

**0.2** Unless the ingredients used in media for microbiological work are of uniform quality, the results obtained would be erroneous and would be unreliable. Since the media used in different laboratories often differ greatly in their quality, the results of microbiological work at different laboratories cannot be compared. Therefore, with a view to unifying the practices of different laboratories dealing with microbiology and providing guidance to the indigenous manufacturers regarding the quality of various ingredients, it has been decided to bring out a series of Indian Standard Specifications for ingredients commonly used in media for microbiological work.

**0.3** Liver extract also known as proteolysed liver, is used in microbiological work. It is obtained by the proteolytic digestion of mammalian livers.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

## 1. SCOPE

**1.1** This standard prescribes requirements and methods of sampling and test for liver extract ( proteolysed liver ), microbiological grade.

## 2. REQUIREMENTS

**2.1** The material shall be in the form of a pale or greyish-brown powder, or brown paste with a meaty but not putrid odour.

**2.2** The material shall be almost completely soluble in water. The *p*H of a 5 percent aqueous solution shall be between 5 and 7.

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*Rules for rounding off numerical values ( *revised* ).

**2.3** Vitamin $B_{12}$ activity of the material shall be not less than 0·1 $\mu g/g$ when analysed by the method given in IS : 7529-1975*.

**2.4** The material shall also conform to the requirements given in Table 1.

**TABLE 1 REQUIREMENTS FOR LIVER EXTRACT, MICROBIOLOGICAL GRADE**

| Sl No. | Characteristic | Requirement | Method of Test, Ref to | |
|---|---|---|---|---|
| | | | Appendix of This Standard | Cl No. of IS : 6854-1973* |
| (1) | (2) | (3) | (4) | (5) |
| i) | Moisture, percent by mass, *Max* | 7 | — | 4 |
| ii) | Sulphated ash, percent by mass, *Max* | 7 | A | — |
| iii) | Amino acid nitrogen, percent by mass, *Max* | 3·5 | — | 8 |
| iv) | Total nitrogen, percent by mass ( on dry basis ), *Min* | 13 | — | 9 |

*Methods of sampling and test for ingredients used in media for microbiological work.

## 3. PACKING, MARKING AND STORAGE

**3.1 Packing** — The material shall be securely packed in well-filled wide-mouth containers so as to preclude contamination of contents.

**3.2 Marking** — Each container shall be marked legibly to give the following information:

a) Name of the material including the words ‘ Microbiological Grade’,
b) The amount of $B_{12}$ contained per gram,
c) The name and proportion of any preservative contained in it,
d) Name and address of the manufacturer,
e) Minimum net content, and
f) Batch or code number.

**3.2.1** Each container may also be marked with the ISI Certification Mark.

NOTE—The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

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*Method for estimation of vitamin $B_{12}$ in foodstuffs.

**3.3 Storage** — The material shall be stored in cool and dry place.

## 4. SAMPLING

**4.1** The representative samples of the material shall be drawn according to the method prescribed in **3** of IS : 6854-1973*.

## 5. TESTS

**5.1** Tests shall be carried out by the methods prescribed in **2.2**, **2.3** and in col 4 and 5 of Table 1.

**5.2 Quality of Reagents** — Unless specified otherwise, pure chemicals and distilled water ( *see* IS : 1070-1960† ) shall be employed in the tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the experimental results.

# APPENDIX A

[ *Table* 1, *Item* (ii) ]

## DETERMINATION OF SULPHATED ASH

### A-1. REAGENTS

**A-1.1 Sulphuric Acid Solution** — 10 percent.

### A-2. PROCEDURE

**A-2.1** Weigh 5 g of sample in a 50- to 100-ml platinum or silica dish. Add 5 ml of sulphuric acid solution, ignite until the sample is well carbonized and then ash in a muffle furnace at about 550°C. Cool, add 2 to 3 ml sulphuric acid solution, evaporate on steam bath, dry on hot plate, and again ignite at about 550°C to constant mass. Express the results as percent sulphated ash.

### A-3. CALCULATION

**A-3.1** Sulphated ash, percent by mass $= \frac{M_2 - M_1}{M} \times 100$

where

$M_2$ = mass, in g, of ash with dish;
$M_1$ = mass, in g, of dish; and
$M$ = mass, in g, of the sample.

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*Methods of sampling and test for ingredients used in media for microbiological work.

†Specification for water, distilled quality ( *revised* ).

( *Continued from page* 2 )

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| 7128-1973 | Proteose peptone, microbiological grade |
| 7203-1973 | Casein hydrolysate ( acid digested ), microbiological grade |
| 7535-1975 | Liver extract, microbiological grade |
| 7536-1975 | Soluble starch, microbiological grade |
| 7590-1975 | Gelatin, microbiological grade |
| 7591-1975 | Malt extract, microbiological grade |

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